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ABSTRACT

An electronic communications network called Te Wahapu has been developed by Te Wahanga Kaupapa Maori of the New Zealand Council for Educational Research to facilitate the exchange of information and provide access to resources relating to Maori language and Maori education. The system, which was officially launched in May 1991, is set up as an electronic bulletin board, with public access and e-mail links to other systems through FidoNet. However, it differs significantly from other such systems in that: (1) there are several databases that may be queried online (Including a regularly updated register of new and technical vocabulary in Maori); and (2) all commands, menu items, system prompts, and messages are in Maori (English is available only through bilingual help screens). This paper outlines some features of the system, uses to which it has been put, and future plans; and discusses the significance of information technology in the empowerment of indigenous peoples. (Author/LR)

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NZARE / AARE JOINT CONFERENCE 1992
SYMPOSIUM ON MAORI EDUCATION

Combining Medium and Message: An Electronic Communications Network for Maori Language and Education

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ABSTRACT

An electronic communications network, Te Wahapû has been developed by Te Wâhanga Kaupapa Mâori of NZCER to facilitate the exchange of information and provide access to resources relating to Maori language and Maori education. The system was officially launched in May 1991, and runs on hardware supplied by IBM (NZ) Ltd. Te Wahapû is set up as an electronic bulletin board, with public access and e-mail links to other systems through FidoNet. However, it differs significantly from most other computer bulletin boards in two ways: there are several databases which may be queried on-line (including a regularly updated register of new and technical vocabulary in Maori), and all commands, menu items, and system prompts and messages are in Maori (English is available only through bilingual help screens). This presentation will outline some of the features of the system, the uses to which it has been put, plans for the future, and discuss the significance of information technology in the empowerment of indigenous peoples.

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In 1971 the New Zealand Council for Educational Research established a special section devoted to research, information and advisory activities concerned with Maori education and Maori language. It has never had large core research staff --the peak was reached in 1974, with two full-time research officers and one full-time reseach assistant; by 1987 this had been reduced to one full-time and one part-time research officer. Nonetheless, research grants and contracts have enabled well over a hundred people to work with Te Wâhanga Kaupapa Mâori for shorter and longer periods over the last twenty years. This has enabled Te Wâhanga Kaupapa Mâori to become a national centre for research and information in a number of areas of vital interest to Maori people, including the status of the Maori language, bilingual education, and, most recently, the recognition of experiential learning. A research internship program, sponsored initially by philanthropic foundations and later partly funded by the government has also enabled Mâori students to gain experience in many aspects of research, from fieldwork through to the writing, dissemination and application of research findings.

The interest created by the research and publications of Te Wâhanga Kaupapa Mâori soon resulted a demand for information and advice which could not be dealt with adequately by a small permanent staff and fluctuating number of temoprary assistants. In the 1980s, bilingual and immersion education in Maori developed rapidly in New Zealand, but the infrastructure to support these developments was never adequate. One very practical problem which needed addressing was the development and dissemination of Maori terms for modern developments in a wide range of activities, from the arts and the humanities to administration and commerce. In 1981, after completing a study on basic vocabulary and commencing work on a learners dictionary of Maori, Te Wâhanga Kaupapa Mâori began collecting new terms from the existing bilingual schools (then officially only four in number!) and circulating these to the others, at first informally, and later through a newsletter sent out to a rapidly expanding network. As the new words accumulated into hundreds, and the network membership also reached three figures, the backlog of material which should have been circulated increased, and the cost of sending it out to a large number of people who could ill afford to pay for it became a serious problem.

The advent of the personal computer provided a solution to both difficulties. A computer bulletin board to enable children to exchange writing in Maori was one possibility to be explored -- such an exchange with Spanish as the medium had been successfully started between schools in Puerto Rico and the East Coast of the U.S. in the early 1980s. The problem at that time was that few New Zealand schools had computers, and slow modems and expensive toll calls were not conducive to arousing enthusiasm for this idea. In 1987, however, I was able to visit UZEI, an organization in San Sebastian in the Basque Country which produces specialized dictionaries to enable Basque speakers to

keep up with modern developments in all fields of knowledge. At that time the staff of UZEI were just introducting on-line access via modem to their databases. This seemed to offer an excellent model for giving Maori people access to this kind of information about their own language. To start with, we simply added to our database regularly and kept it in a Lotus 123 spreadsheet for ease of sorting, printing it out periodically for those who were interested.

The establishment of the Maori Language Commission in 1987 resulted in a steady and rapid increase of new vocabulary, augmented by subject-matter enthusiasts and various official and unofficial sources. The sheer volume of new material meant that the printed record as a whole would always be out of date, making some kind of on-line access an attractive solution to both the keepers of the lists, and also to potential users. Modems were also becoming cheaper and more common, and although computer illiteracy was by no means a thing of the past, a significant number of Maori people had acquired computer skills and were interested in the idea of a computer-based information system which they could both consult and contribute to.

With the help of local computer bulletin board systems operators, I set up a prototype system on my computer at home. At the beginning of this project I had decided that the medium indeed conveyed a high-impact message, and therefore the communications system we set up had not only to be devoted to Maori concerns, it must also operate through the Maori language. I chose the Opus system (then version 1.03) because it was "militantly public domain", the developers had a sense of humour which appealed to me, and there was generous support available from others running such systems. The menus were user-defined, so the only problem in turning them into Maori was the linguistic one. The system language was more problematic, as one had to "hack" into the program files -- this required care, and the Maori equivalents could not exceed the number of characters allotted to their English counterparts. Nevertheless, an almost entirely Maori version of Opus went on air for its successful field test on March 25, 1990, with a call from Te Tuhi Robust, Principal of Motatau School, 600 miles north, who had borrowed a modem from a friend specially for the occasion.

Another colleague, Pat Nolan of Massey University, put us in touch with IBM, whose external relations director, Tony Taite, visited NZCER for what turned out to be a successful demonstration of the idea (with the system still based on my computer at home). At that stage there was a small collection of files related to Maori language issues and Maori education, as well as communications programs and utilities, message areas on language, research and other topics (each with a few exchanges from the half dozen or so foundation members of the electronic network), and the word list, which had grown to several thousand words and could be perused in 150-word chunks, or downloaded in its entirety. Three "message areas" were converted into databases, on Maori language, Maori education, and researchers involved in Maori issues respectively.

The donation shortly afterwards by IBM of a PS2 Model 70, with 4 megabytes of RAM and a 110 megabyte hard disk, plus another computer and a laser printer to facilitate the production of handbooks and the occasional printed newsletter, enabled the system to make a quantum leap (as well as freeing my own computer from its dual role). More development work was done, and the Opus operating system had been upgraded twice (to versions 1.10 and 1.13) by the time the system was officially launched by the Minister of Education, Dr Lockwood Smith, under the guidance of Eboni Waitere, a pupil of a Kura Kaupapa Maori (Maori-immersion primary school), in May 1991. The name chosen for the system was Te Wahapû. The word "wahapû" means estuary or river mouth, a place teaming with life, and the point at which salt and fesh water, inland and coast converge.

Te Wahapû is a member of the Internatonal FidoNet Association, a loose federation of about 20,000 non-commercial bulletin boards scattered throughout the world. Mail can be sent to Te Wahapû through FidoNet gateways from most other electronic networks. A large volume of electronic mail comes into Te Wahapû each day from FidoNet and the K-12 educational network, to which the system is also affiliated. However, this is true of hundreds of other bulletin boards with an educational focus in many countries. Te Wahapû is unusual in two ways, however. The first is the use of Maori as the language for commands and system messages. The newer versions of Opus, and the similar Maximus system through which Te Wahapû now operates, are much easier to configure in this respect -- ASCII control files can be modified to suit any language requirements and then parsed to modify the program files. The conversion of the system has been a difficult exercise in applied terminological research, but is an exercise which is now nearing completion (all the "surface" commands were translated at the outset, but some of the more esoteric, and a few of the misleadingly simple expressions have taken longer to deal with satisfactorily).

The second unusual feature of Te Wahapû is its range of databases. Most PC-based bulletin boards have file and message areas. These are databases of a sort, but lexicons, bibliographies and other specialized information bases for on-line searching are at present rarely present on such systems. At the time Te Wahapû was launched, the largest and most attention-getting of these databases was the register of new and technical vocabulary in Maori. This was basically an English-Maori glossary, with a little contextual information to clarify potentially ambiguous glosses. A program to search this database and write the results of the search to a file, which was then displayed to the user and could also be downloaded, was written for us by Hemi Bennett, a friend of one of the network members. At that time there were about 3,500 words in the database, and a search was completed in about one second. There are now over 11,000 entries, but the increase in search time is barely perceptible. Registered members of the Te Wahapû whânau who agree in writing not to allow the material to be used for commercial purposes may download the latest version of the database, together with a program to enable them to search it on their own computer. (The vocabulary database is updated whenever

new material comes to hand; the average rate of growth over the last 18 months has been about 14 words a day).

When the system first went on line, the reaction from Maori users was overwhelmingly favourable. Native-speakers found the universality of Maori on the system both affirming and intriguing. It is, after all, quite difficult for native speakers of English to come to grips with supposedly English-based computerese. The adaptation of Maori to this technological domain has also required considerable searching of cognitive maps. Some non-Maori users were literally stunned by a computer system which uncompromisingly spoke to them in Maori and demanded a response in that language. "Y" for "Yes" brought a demand for "A" for "Ae" or "K" for "Kao" (with an offer of "?" for "Awhina" -- but the shock was too great for some people to realize that the question mark had a universal meaning: "help" in any language).

One could see from the computer log that many users were having a hard time coming to grips with the commands, and I began to wonder if in the interests of efficiency I should relent and allow a "watered down" background option of the kind the system had when it operated under Opus 1.03. We decided, however, to maintain the policy of steadily phasing out English except in the help menus when it became clear that the "floundering" was regarded by most of those affected as a valuable learning experience. One of those seemingly having greater than average difficulty at the time sent this response to my query as to the wisdom of our intransigence:

> No mercy, no compromise. Maori language commands with some help as presently done is AOK with me. (JS, 20 Jul 92)

A Guided Tour of the System

The initial logging-on to the system is a two stage process, as the incoming call is answered by a "front door" program, which displays a message informing the human caller that they can either press the "Escape" key, or wait for twenty seconds, and the bulletin board will arrive. The caller may, however, be another computer system. It will be dealt with at the "front door" without the need to summon the bulletin board programme: the twenty second wait gives these non-human callers time to start their handshaking routines. After having established their humanity and typing in their name and password, members of the user network will be shown a welcome screen (which includes a proverb picked at random), and end up at the system's main menu. From here they can choose a number of submenus (for example, one option leads to a choice of information bulletins about various aspects of Te Wahapû and computer communications, another to editorial comments, explanations of the proverbs displayed on the opening and closing screens, and so on. There is also an index to the system, which can be used to get English or French translations of the system messages and commands (or Maori translations of corresponding French and English terms) and

references to other kinds of information to be found either on Te Wahapû itself or in the users guide to the system.

The most important exits from the main menu are to the message, file and database areas respectively, each of which has its own menu of choices. There are seven sets of message areas on Te Wahapû. Firstly there are a couple of purely "local" areas that do not go anywhere else -- an area exclusively for messages to and from the systems operator, and one for private messages between users of Te Wahapû. Secondly, there is the FidoNet E-Mail area, for messages to and from users of Te Wahapû and those of other systems, including InterNet sites. This also is primarily an area for personal rather than public-access messages.

```
Nau mai ki Te Wahapu, Te Punawaru-a-Tuhi ma te Ao Hou!
Patopatohia <Esc>, tatari mai ranei kia 20 hekona, kia taea
     ai ko Te Wahapu.
Kia ora -- Ka puta mai te Punawaru -- Taihoa ...

MAXIMUS v2.01

                    Te Wahapū
                    Te Punawaru-a-Tuhi
                    ma te Ao Hou
                    3/12/1275/2400 bps

Na IBM (NZ) Ltd i tautoko.

Ko wai to ingoa: hoani mete
Hoani Mete [A,k]? a
Hiporete: .......
```

Figure 1: Log-on Sequence

Central to the purposes for which Te Wahapû was established is a set of message areas which at the moment are "local", but which may eventually be "echoed" to a network of similar systems established in major centres of Maori population. (An "echo" area is one in which each message entered is also sent by the computer to other systems whose members have an interest in this topic.) These "conferences" include a general "chat" area, two areas in which Maori is the only language permitted -- one devoted to the interests of younger users, and the other to wine reviews (an attempt to stimulate technical writing in Maori about matters other than schools and computers). The remaining areas in this set, in which messages may be (and are) written in Maori, English, or partly in each language, are concerned respectively with Maori language issues generally (including new vocabulary), the teaching and learning of Maori, school administration, and research. There are also two echo areas which originate on Te Wahapû and which are available to any interested FidoNet system. One is concerned with cultural exchanges with other ethnic

groups, and the other, which goes to several Auckland and Wellington bulletin boards, is for discussions of Maori affairs generally.

The fifth set of message areas are general FidoNet areas likely to be of interest to members of Te Wahapû, or which members have asked to be made available. Currently, there are 22 of these, one devoted to New Zealand education, ten to computer topics, and twelve to a miscellany of subjects, from ecology and genealogy to the mass media and New Zealand affairs. The "New Zealand" echo and one or two others are "gated" to Te Wahapû from UseNet, a mainframe-based network which carries vast numbers of conferences and messages. In addition to FidoNet, Te Wahapû is a member of K12Net. This is an international educational network for primary and secondary schools, sponsored in New Zealand by IBM. Te Wahapû does not carry all the K12 conferences, but does have those which relate to the major concern of its users: computer literacy, technology education, French, Language Arts (in which teachers from many American bilingual programmes are active participants), "Education News" (which gives daily updates on developments in education policy, curriculum and school administration in the United States), science education, social studies and "Spanish/English" (a forum in which English-speakers can practise their Spanish, and Spanish-speakers their English). Lastly, there are special areas for restricted access, for example for communication within Te Wâhanga Kaupapa Mâori, between Te Wâhanga Kaupapa Mâori and the Maori Language Commission, and for members of the Polynesian Languages Forum.

Each of the message areas is set up as an indexed database, and any one or combination of four fields (the sender, addressee, subject, or body of the message) can be searched for one or more strings of characters. Users can specify whether a search is to take place on messages in the particular area they happen to have on screen at the moment, in areas they have previously "tagged" as being of special interest to them, or over the entire message base. The latter option is to be used with caution, particularly if the search is to include the body of the message: with 7,000 messages to look at in 45 databases, a search for a pair of terms could take anything from 20 to 40 minutes to complete, especially if one opted to read the relevant messages as they were located, rather than just having them listed. On the other hand, a search of a single database normally takes only a few seconds.

An example of a simple message base search is illustrated in figures 2 and 3. The sequence of messages revealed in the list, spread across three different message areas, followed from an apparently innocuous query about the Maori word for "floptical disk". This and two subsequent responses are reproduced in Figure 4. The person to whom the original query was addressed had first to find out what a "floptical disk" was in English. After some exchanges of messages with other people, the matter was referred (with some suggestions) to the Maori Language Commission, whose officials, according to the final message in the sequence, were hard pressed but one of them would be reminded of the need to condsider this matter "next Monday". The examples also illustrate another feature of the messaging system: items in

a sequence of messages on the same topic within an area are cross-referenced, and can be followed to their source or conclusion from any point in the chain by selecting the appropriate command from the message area menu.

```
Wa~hi  G(Nga~Wa~hi)  Panuku  O(To~mua)  Tukua  *(Whakahoki)
Ui_atu  TIRIWA~>
U

Browse: [C)urrent area, T)agged areas (default), A)ll areas,
Q)uit]: t

Type: [N)ew msgs, A)ll, Y)our mail, S)earch, F)rom msg#,
Q)uit, ?)help]: s

Search where [any or all of T)o, F)rom, S)ubject, B)ody, or
?)help]: sb

Text to search for: flopt

Maximus will search for messages containing:
'flopt' ki roto i te kaupapa, tinana o te kupu

L)imit search (with AND)
E)xpand search (with OR)
S)earch with these criteria
W)aiho te kimi

Ti~pako: s

Display: [R)ead (show whole msg), L)ist (one per line),
P)ack (QWK), Q)uit]: L
```

Figure 2: Sequence of steps for a simple search of message databases

The second major source of information on Te Wahapû is the files section. Users of the system can leave and collect files in much the same way as they leave and receive messages. Te Wahapû's file areas are much more focussed than those of most FidoNet bulletin boards, and there are many more text files than program files. As with the message section, there are a number of "areas" for different types of subject matter. These include three general areas, one of which has text and program files relating to computer-based communication, the Te Wahapû system itself, and programs for reading and compressing files, finding and killing viruses, and so on. The second of these areas has programs related to language learning, a few for Maori, but also public domain and shareware programs for teaching and learning other languages, some of which may provide good models for people wishing to develop programs for learners and teachers of Maori. There is a separate area for programs for non-IBM systems.

Kupu#	Na	Ma	Kaupapa
Wa~hi 3: Nga kupu ki te KAIWHAKAHAERE (SysOp)			
166	Hone Phillips	Te Kaiwhakahaere	Comment from Hone Phillips
167	Richard Benton	Hone Phillips	Comment from Hone Phillips
Wa~hi 4: Ko Te Reo Rangatira			
67	Hone Phillips	Maia Wilcox	Floptical disk
68	Maia Wilcox	Hone Phillips	Floptical disk
69	Hone Phillips	Maia Wilcox	Floptical disk
70	Maia Wilcox	Hone Phillips	Floptical disk
Wa~hi 63: TWKM / Taura Whiri			
12	Richard Benton	Jenny Jacob	Optical disks
13	Maia Wilcox	Jenny Jacob	Floptical disk (Informatio
17	Richard Benton	Tipene Chrisp	"Floptical & Optical disks
18	Tipene Chrisp	Richard Benton	"Floptical & Optical disks
19	Richard Benton	Tipene Chrisp	"Floptical & Optical disks
20	Tipene Chrisp	Richard Benton	"Floptical & Optical disks

Figure 3: Listing of messages meeting the search criteria

The other files areas are devoted more specifically to topics connected with Maori language and education: Maori language (status and use, structure, literature, teaching and learning), reports and papers produced by Te Wâhanga Kaupapa Mâori, work in progress, education (research, policy statememts, curriculum), Maori Affairs, children's writing in Maori, cultural exchanges with other ethnic groups, archived material, and the results of searches of the on-line databases for downloading. There are also some restricted areas for special groups, such as the Polynesian Languages Forum and Te Wâhanga Kaupapa Mâori staff.

Each area has a separate files list which can be perused independently, but general searches may be made for particular files or file descriptions from any file area, and it is not necessary to move to a particular area to download a file from the system. Searches of the file base are more rapid than of the message base, partly because there are generally fewer files, but also because the search is confined to the file name and its brief description. A sample of the results of such a search, for files relating to prior learning (using "prior" as the string to search for) is given in Figure 5. Having located the files (in this case, text files) one could then browse through them on-line, or simply download them to one's own computer to be read later. The beauty of such a computerized library is that the "book" remains available for an infinite number of potential borrowers, as it is a copy of the file which is transferred, not the file itself. Similarly, users can upload files for other people to use retaining their own copy undiminished by the process. The message areas and the file areas are interconnected; further information on topics discussed in the message sections will often be found in the files areas, and vice versa.

```
Na:    Hone Phillips                        Rec'd
Ma:      Maia Wilcox                        Kupu #67, Sep-11-92 21:36:26
Kaupapa: Floptical disk

MSGID: 3:771/210@fidonet 208a7fb1
Kia ora Maia.

What's the Maori for "floptical disk"?

          Arohanui,
                na Hone

*** Titiro ano~ ki #68.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

Na:    Maia Wilcox                          Rec'd
Ma:      Hone Phillips                      Kupu #68, Sep-15-92 09:10:42
Kaupapa: Floptical disk

MSGID: 3:771/210.0 2ab4ffd2
REPLY: 3:771/210@fidonet 208a7fb1
Kia ora ra Hone.

Gee!  What does floptical mean?  Is this word any relation to can
tell you is that 'disk' is 'ko~pae', which is also one of the Taura
Whiri's words for 'floppy disk'.  They however have also used the
term, 'ko~pae pi~ngore' for 'floppy disk'.  I don't know if this is
what you're wanting however!  Good to hear from you anyway!
  Ka kite
        Maia.

*** He whakahoki te~nei ki #67.  *** Titiro ano~ ki #69.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

Na:    Tipene Chrisp                        Rec'd
Ma:      Richard Benton                     Kupu #20, Nov-06-92 18:55:16
Kaupapa: "Floptical & Optical disks"

MSGID: 3:771/210.0 2afa16d4
REPLY: 3:771/210@fidonet 236dbfca
E hika, tena ra koe e noho mai nei i te Motukairangi, e tata ana ki
te pa tuwatawata o Tuteremoana i Rangitatau!! Mo te floptical me te
optical; kua hoatu ahau i nga korero katoa ki a Heni. Kaore ahau i
te mohio mena kua oti i a ia te whakamaori - he nui ana mahi i
tenei wa, a, katahi raua ko tana hoa i hoko whare. No reira, aroha
mai ki te Taura Whiri i te Reo Maori. A te Mane e tu mai nei (te
iwha o Urutautahi), maku e whakaoho i te mahara a Heni.

 Hei konei, hei kona. Tipene

*** He whakahoki te~nei ki #19.
```

Figure 4: Messages following a "thread"

```
LOCATE (search ALL file areas)
Patopatohia ? (a~whina),*  kia rarangitia nga ko~nae hou ra~nei.

Patopatohia nga tohu hei kitea: prior

E kimi ana ki 'prior'.

Wa~hi ko~nae 6 ... Nga Mahi Hukihuki

rpldbase.txt    48896 11-04-92* "spreading the word" -- the nzcer/
                                twkm/nzqa PRIOR learning database

Wa~hi ko~nae 11 ... Te Whainga i te Ma~tauranga

rpl-cal.bib     23882 11-07-92* books on PRIOR & experiential
                                learning held in california
                                 university libraries (nov. 1992)

Wa~hi ko~nae TOEMI ... Nga Kupu Tuku Iho i nga Putunga Kupu

kitea04.bbs     15040 11-07-92* last PRIOR learning materials search
kitea14.bbs      3240 08-17-92  last PRIOR learning projects search

Kua kitea 4 konae .
```

Figure 5: Search for files matching the string 'prior'

Finally, there is the database section proper. By the end of 1992 there were ten on-line databases available to network members. Two of these, the new vocabulary register and the index to Te Wahapû, alluded to in the introductory section of this paper, consist of single-line entries. The register of new and technical Maori vocabulary (approximately 11,000 items), can be searched using English or Maori words, or by category (see Benton 1992a for examples of the way this database is structured). The index to Te Wahapû resources and information acts as an on-line guide to both the system and various aspects of computer-based communications. Examples of the results of a search for the term "**prior**" in each database are given in Figure 6. The vocabulary database search displays items with this English word, the Maori equivalent, and a reference to the source of the entry (which can be located in an information file or through the search program). The index search reveals where items concerning "prior learning" may be found, including the keystrokes needed to get to the files area or database from the system's main menu. (The vocabulary database can also be searched for categories of word; for example the string "**{hockey**", with the left brace signifying that a category of word is being sought, would result in the display of all Maori terms connected with that sport.

TE ŌHU-A-KAUPAPA / INFORMATION AND RESOURCES INDEX

At the prompt, type a word (or part of a word) indicating what you are looking for. Entries preceded by TMTK >> refer to pages in "He Tohotohu ma te Kaiho~para" -- the "Explorer's Guide" -- these can be looked up in the files ARAHI-*.DOC (11 in all) in WA~HI KO~NAE 1 ({WW1} from the main menu). Entries preceded by T/P >> are from the Papakupu (glossary) in the guide.

Patopatohia te kupu e kimi ai koe: **prior**

File E:\WAHAPU.IDX:
RECOGNITION OF PRIOR LEARNING (RPL, APL) Databases -- Nga Putunga Kupu {&P} {&E}
RECOGNITION OF PRIOR LEARNING (RPL, APL) Files -- W. Ko~nae {WW11} {WW4} {WW6}
PRIOR EXPERIENTIAL LEARNING -- Databases {&P} {&E} {&C} {&J}
PRIOR EXPERIENTIAL LEARNING -- Files -- See Wa~hi Ko~nae 4, 6, 11 {WW11} etc.

%%%

Register of Research into Maori Education
...
Patopatohia te kupu e kimi ai koe: auckland

AK-5(90/**)
Child Health Practices in the Families of {Kohanga Reo Children.

LOUIE _BARRINGTON (He Puna Ora) and PROFESSOR R B _ELLIOTT

1 March 1988 - 28 February 1989

Funding: Medical Research Council, Health Research and Development Committee

Focussed group discussions/interviews with the mothers of kohanga reo children to gain an understanding of both western and traditional Maori child health practices used within the whaanau. Some educating on health practices occurs in these groups by Louie Barrington, a nurse, and Kaa /Graham, a traditional healer.

Contact for further information: Professor R B Elliott, Department of Paediatrics, Auckland School of Medicine, C/- University of Auckland, Private Bag, AUCKLAND

Key Words: {CHILD {HEALTH

%%%

```
            Te Le'o-o-Maui
 Search for Items to be Read On-line
 ...
Patopatohia te kupu e kimi ai koe: homicide


 Le'o o Maui Database (c) TWKM & PLF,  Kupu 250
[Fr] _HOMICIDE (n) Acte de celui qui tue un otre humaine
          <Lexis>
[En] _HOMICIDE (n) Killing of a human being, especially by
          another <COD>
[Es] _HOMICIDIO
          {LAW, {DROIT

CIM> ta~mate tangata <ZCM.13w>
EAS> taparahi tangata <Fuentes> [taparahi, "assassination"]
NZM> whakamate tangata <Taura Whiri 11/90>
SAM> fasioti tagata <L.K. 2/91> [<fasi "beat, kill" + %'oti]
TON> ta~mate tangata <Churchward>

%PPN> %faka-  "causative" (NZM)
      %taa "strike" (CIM, TON)
      %mate "dead" (CIM, NZM, TON)
      %tangata "human being" (CIM, EAS, NZM, SAM, TON)
      %'oti "finish, be finished" (SAM)
```

Figure 8: Portion of a screen from the Polynesian languages database

be useful in the New Zealand context. It includes both published and unpublished material, and the results of searches may be read on-line, or downloaded as a file. There is a companion database which contains accounts and progress reports of New Zealand projects designed to implement the recognition of prior learning in tertiary institutions. It is designed both to inform people interested in this area of current developments, and to enable those who are involved in the various projects to share experiences and ideas with each other. (A full account of these databases is given in Benton 1992b). Both prior learning databases have been supported financially by the Bew Zealand Qualifications Authority.

A terminological database is being developed for the Polynesian Languages Forum. It records terminology in 12 official Polynesian languages, with French, English and Spanish headwords, information about the origins of the various terms, and identifies where possible the Proto-Polynesian roots employed in the formation of each word. It is hoped that, used in conjunction with the Proto-Polynesian databases (see below) this database will encourage the sharing of information by the various Polynesian language authorities and organizations, and facilitate the development of a pan-Polynesian approach to terminology development. A portion of an entry in this database (as displayed on Te Wahapû) is given in Figure 8. (See Benton 1992a for further information.)

```
Index to Proto-Polynesian Database
...
Patopatohia te kupu e kimi ai koe: carangid


 Le'o o Maui PPN Database (c) B.Biggs, TWKM & PLF, Kupu 12

{PROTO-NUCLEAR_POLYNESIAN

 ALAALA
 Fish sp. (Carangidae)
```

Figure 9: Search for 'Carangid' in Proto-Polynesian index

```
Proto-Polynesian Database
  // Awhina (Help)

Patopatohia te kupu e kimi ai koe: alaala


 Le'o o Maui PPN Database (c) B.Biggs, TWKM & PLF,  Kupu 37

{PROTO-NUCLEAR_POLYNESIAN

 ALAALA

 Fish sp. (Carangidae)

%NP% :Fish sp (Carangidae).
EFU  Alaala/muli. :Small fish sp. (Bgs).
EUV  Alaala. :Fish sp. (Carangoides fulvoguttatus) [Forskal] (Rch).
KAP    Araara. :Sp. of fish (Ebt).
KAP1   Alaala. :Jack (Caranx malampygus) (Lbr).
MAE    Raaraa/futu. :Fish sp. (Trachinotus?) (Clk).
MAO    Araara. :Trevally (usacaranx lutescens).
MFA    Raara. :Small stage of a fish, probably a Caranx sp..
NKR    Alaala. :Fish sp., jack.
SIK    Alaala/hutu. A fish.
TAH    Araara/vi. :Fish sp., called hiroa when fullgrown.
TAK    Arara. :Fish sp. (Hwd). TIK    Araara/futu. :Seafish of
               Snapper type (Fth).
WFU    Ara/uru. :A fish.

<PollexAM.dat 03
```

Figure 10: Search for 'alaala' in full Proto-Polynesian database

The two other databases contain material on Proto-Polynesian vocabulary. The main Proto-Polynesian database consists of about three megabytes of material supplied by Professor Bruce Biggs of the University of Auckland, which is being prepared for on-line searching. This lists all known reconstructions of Proto-Polynesian vocabulary (including proto-forms for lower-order subdivisions of the Polynesian languages), and the forms these words have taken in modern Polynesian languages. We are also developing an index to this database, consisting simply of the proto-form, an English gloss, and the proto-language to which the reconstruction relates. As each section of the original database is modified for display on Te Wahapû, it is added to the appropriate file for on-line searching. Examples of the index and full entries respectively for one of these terms are given in Figures 9 and 10.

The Uses to Which Te Wahapû Has Been Put

Altogether about 500 people have logged on to the system since it was inaugurated, and at the beginning of November 1992 there were 276 registered users. Only a very small proportion of these, however (about ten percent) could be described as regular users, logging on several times in the course of a month. However the fact that the system exists is important, and it has attracted wide interest among the Maori community; most of the registered users are Maori, and they cover a wide range of occupations, from academics and prison officers to home makers. The majority of registered users are from areas outside Wellington, and, although some of these people are among the most frequent users of the system, the cost of long distance calls is obviously a disincentive to regular use for many members of the network. Nevertheless, the system has already played an important role in disseminating research and information relating to Maori education and language issues to a varied audience, and occasionally has had an impact on decision making. An editorial on the system in July 1992, for example, was relayed by a member to the Wellington morning newspaper The Dominion, which republished it, and the resulting discussion helped secure a modification of official policy towards the funding of Maori radio stations.

Obtaining answers to questions and stimulating people to seek further information on specific topics such as those illustrated earlier in this paper is the predominant use to which members of the network have put Te Wahapû in its first two years. The system also functions as an information base and archive which can be tapped by a large number of Maori groups. Certainly, it will soon be the easiest route to obtaining much of the material produced by Te Wâhanga Kaupapa Mâori, as the section's capacity to cope with requests for information by other means is eroded by continual budget cuts. Using a computer-based system also enables material to be shared with a large number of people: the correspondence on "floptical disks", "language and world view", or the "socialization of boys", for example, can be found and

read by anyone interested in these matters, rather than just by the addressee. This does in fact happen frequently, with other people adding extra information, or suggesting new lines of enquiry, on topics which interest them.

The system also acts as a communication system for the Polynesian Languages forum, and for exchange of data between Te Wâhanga Kaupapa Mâori and the Maori Language Commission. Several other Maori groups have enquired about the possibility of having message and file areas devoted to their special interests; there is no obstacle to this provided these fit in with the general purpose of the system, to foster the development of Maori education and the revitalization of the Maori language.

The relatively easy access to the system, and the large number of people who have actually registered as members, have meant that some of the facilities which were originally intended to be freely available have had to be made more secure. For example, when Te Wahapû was launched, the new vocabulary database was comparatively modest, and there was relatively little interest in the commercial possibilities of this resource. Over the last two years there have been dramatic changes in both these matters: commercially produced Maori language spelling checkers have appeared, and other commercial applications with Maori language content undoubtedly are in the wings. Furthermore, the vocabulary database, with 11,000 entries, is now a major resource of considerable potential value commercially. So in addition to including a copyright notice in the file, downloading, and even on-line reading of the data files (as against searches for specific words) have been restricted to people willing to give a written undertaking that they will ensure that the data they download are not used commercially. It is ironic that access to parts og the system has had to be restricted in order to ensure that it remains free.

Plans and Prospects for the Future

There are many ways in which Te Wahapû can be improved; all computer communications systems and databases are constantly being tinkered with in a quest for perfection (or for the lessening of imperfections). It is hoped that well before the end of 1983, for example, the system will have a high-speed (14400 baud) modem, and that the database search programs will be much more sophisticated, but still user friendly. We also plan a great expansion (analogous to the growth of the vocabulary database) in the the contents of the existing databases and of the document file holdings, as well as the development of new databases (for example, on bilingual and immersion education).

However, we have learned a great deal from watching and responding to the difficulties which members of the network have had in coming to terms with the use of the computer as an information gathering device. When Te Wahapû was officially launched (in May 1991) all members of the Maori Language in Education Network (the core group for whom the system was

developed) who joined the electronic network were provided with a comprehensive manual, He Tohutohu mâ te Kaihôpara: An Explorer's Guide to Te Wahapû. This not only included full information about all the commands, areas, and so on, but also contained detailed explanations of topics such as file compression, and uploading and downloading files. There were (and are) comprehensive help screens available on line dealing with all these concepts in glorious technicolor (for those with VGA monitors). Special one and two-page guides to specific processes, like logging on, or leaving messages, were also prepared and distributed.

Most users found the manual helpful, but many did not realize how comprehensive it was until the information it contained was directly brought to their attention, in response to a plea for help. Even quite sophisticated academics sometimes failed to notice that the guidebook had an index, and a complete glossary of all the Maori system messages which confused them, for example. Even the fact, stressed repeatedly, that pressing "?" from anywhere in the system would normally bring help took (and continues to take) a long time to learn. The trouble was not primarily with the Maori language or the manual. Feeling comfortable with a computer requires a certain mental disposition which, like the appreciation of fine wine, can be demanding both physically and mentally. Above all it requires the assimilation of a whole set of metaphors which may be self-evident to the adept, but are completely opaque to the uninitiated. The difference between "downloading" and "uploading" (whichever language these metaphors are presented in) can be extremely difficult to grasp, for example. The processes are clear enough, but the labels attached to them seem to be frustratingly interchangeable. Even the fact that "uploading" a file to the remote system will not cause it to disappear from one's own disk challenges the credibility of some highly intellligent novices.

In the short-term future, a new users manual must be developed, as the much greater sophistication of the Maximus software under which Te Wahapû now operates means that some sections of the guide require extensive revision. One school whose trustees and computer specialist were very impressed with the system are planning to make a video illustrating all the basic processes. Since someone from Te Wâhanga Kaupapa Mâori cannot be on hand to observe every new user, this should be a great help to people who have to learn about computer-based communications more or less on their own.

There are also plans, well advanced, to set up "clones" of Te Wahapû in Auckland and Hamilton, and it is possible that other extensions to the network will follow. These satellite systems would be linked to Te Wahapû, with all new messages and files in the language, education and resarch sections on each system relayed through Te Wahapû to the others by high-speed modem at times when transmission charges are minimal. This will enable the many network members in these areas with high concentrations of Maori population to use the system without incurring high telephone bills. It is also hoped to obtain a link between Te Wahapû and Telnet, which would allow members in universities to

call into Te Wahapû directly from their mainframe terminals anywhere in the world. The technical feasibility of this has been investigated, and the prospects for establishing such a link seem good. For other users, packages including pre-programmed off-line readers are being developed to minimize the toll charges for those members who will not have access either to satellite bulletin boards or to Telnet.

Conclusion: Information Technology and the Empowerment of Indigenous Peoples.

The advantages of a system like Te Wahapû to indigenous people whose financial resources are severely constrained is that it is small, and therefore capable of being personalized and adapted to their needs, and it is free, while at the same time offering services, including connections to the outside world, quite similar to those offered by larger, and often very expensive, systems. The very low cost of access to Te Wahapû is quite critical in its capacity to empower rather than alienate the people it is designed to serve. In New Zealand in the 1990s, the dominant of ideology of "user pays" is making access to information very difficult even for well established institutions; the ordinary person, especially if they are Maori, will be increasingly cut off from the information which they need to take control of their social destiny as charges are levied more widely.

Te Wahapû does of course have costs, despite the huge amount of voluntary work which goes in to maintaining and developing the system, and NZCER cannot afford to pay the bills. The network therefore operates on a koha system, quite central to Maori cultural values, but, with its connotations of "from each according to his means, to each according to his needs", now slightly politically incorrect. However, so far it has worked well. While cash contributions are essential if we are to be able to pay our bills, there is no obligation on any member of the user network to contribute in cash: a koha can also be in kind, and active use of the system, encouragement and assistance to other users, provision of information and so on all constitute acceptable koha in our view. We have also been able to make arrangements with friendly merchants to provide reliable modems to members for heavily discounted prices, which again has helped to make access to the benefits of the system easier.

Te Wahapû gives its users access to information and advice not only from each other and from Te Wâhanga Kaupapa Mâori staff, but from international networks of teachers and researchers. There are thus opportunities for both in-group and externally oriented debates and support. The smallness of the system also makes possible a relative immediacy of response from members with special expertise, who are also often more familiar with the context of a request than users of a larger system. Yet Te Wahapû offers gateways into very large systems: the K12 and UseNet conferences, for example, link thousands of individuals all around the world.

The system has an infinite ability (provided costs can be met somehow) to expand with the needs of its users. However, it is very important indeed to keep the real needs of the users -- ready access to a low-cost, comprehensive, culturally comfortable and responsive information system which is pro-active as well as reactive -- constantly in mind. There is a temptation to trade simplicity for sophistication which must be avoided. Users of the system have a wide variety of equipment, for example, ranging from 9600 baud modems to Tandata terminals. It would be very easy to cater to the former and forget about the latter. And yet it is the Tandata users who perhaps need Te Wahapû most. Because it is small, Te Wahapû's development can proceed in a way which keeps such people in mind. Eventually, we hope, they will be able to afford modems linked to computers, but in the meantime we have to ensure that we can cater for the simplest as well as the most complex communications and computer equipment which network members have at their disposal.

A system like Te Wahapû is empowering simply by extending the domains of use of an endangered language into the technical sphere in a way which increases the ability of the speakers of that language to control their environment through that language. A computer which will respond to Maori but not to English is turning the world on its head in a way highly satisfactory to speakers of an indigenous language. The use of Maori as medium also encourages Maori people to approach computer technology with increased confidence. They soon discover that with the computer they have the ideal bridge between the worlds of spoken and written language: as one early user of Te Wahapû exclaimed after entering some messages, "it's like talking with your fingers". This joy provides a link to the mid-nineteenth century, when pen and paper evoked a similar response, resulting in an outpouring of writing in Maori that was transformed into a trickle as the education system pushed the language out of its orbit. Computers offer Maori speakers a vehicle to bring their language back once more into the centre of both the written and spoken universes.

In all this, however, patience and perseverance is needed. However glorious the vision, it is realized at present only in the actions of a few people. A lot of education is needed to enable people to take full advantage of the facilities offered to them by systems such as Te Wahapû. It is basically a case of "each one teach one". That is how literacy in Maori and other Polynesian languages spread, at first slowly and then like wild fire during the nineteenth century. Because of its ability to make an infinite number of carbon copies, the computer offers advantages to speakers and writers of Maori which the pencils and pens of the nineteenth century, and even the printing presses, did not have. And its ability to store information in any language enables a computer-based system to meet the needs of Maori people for information in whatever language they find easiest to cope with, but in an environment which is manifestly Maori.

There is still a long way to go. Despite the hype about the next generation being computer literate, this is a potential as yet

largely unrealized. The "next generation" as a collective (there are many individual exceptions) is dependent on its teachers for guidance in the uses of computers, and children in many classrooms, left to their own devices, find wordprocessing and games their staple fare. Computer literacy in a wider sense, and especially familiarity with the uses of computers as means for facilitating communication and the gathering and creation of information, is a goal yet to be achieved in most New Zealand classrooms. However, it is an accomplishment which many people have attained outside the classroom, and in this indigenous people have a definite advantage. You so not have to go to school to become a proficient user of a computer. Furthermore, there are many computer networks which operate on a cooperative, money-free basis. Indigenous people have the power right now to tap into these networks, quite literally, and on their own terms. They can become the leaders in the information age.

REFERENCES

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